

we here find them in the middle of the secondary deposits in great force and variety, forming in fact a considerable proportion of the whole number of univalves, and consequently existing long before the extinction of the Ammonites and Belemnites.

It is highly probable that Dr. Buckland would not now adhere to the above theory, stated some ten or eleven years ago; but having the authority of his name and occurring in a standard work, it still passes current with the reading public, and has frequently been quoted by subsequent writers.

On a future occasion I anticipate the pleasure of presenting to the Club some remarks more in detail on the new or less-known molluscous forms which occur in this formation. The Inferior Oolite within the narrow limits of my observation has likewise yielded a considerable store of novel materials for investigation: these would require a separate communication.

XIV.—*Descriptions of new or imperfectly described Lepidopterous Insects.* By EDWARD DOUBLEDAY, Esq., F.L.S., Assistant in the Zoological Department of the British Museum, &c.

[Continued from vol. xix. p. 389.]

Fam. PIERIDÆ.

Genus EUTERPE.

Eut. Manco. Eut. alis omnibus supra nigro-fuscis, atomis cinereis adspersis, anticis fasciis duabus transversis macularibus, maculisque marginalibus cinereis; posticis macularum sagittiformium serie, maculisque marginalibus cinereis. Exp. alar. 2 unc. vel 50 mill.

Hab. Bolivia.

Above: anterior wings fuscous, sprinkled with cinereous, the cell with a cinereous spot at the extremity; followed by two transverse macular bands of the same colour running nearly parallel to the outer margin, the inner one becoming wider and less defined towards the inner margin, the outer margin marked with a series of cinereous spots between the nervules. Posterior wings fuscous at the base, then thickly sprinkled with cinereous scales, so as to form a broad band across the middle of the wing in continuation of the first band of the anterior wings: beyond the cell fuscous, with a series of sagittate spots composed of cinereous and fuscous scales, about equally mixed, and on the margin itself a series of cinereous spots. Below: the anterior wings are grayish white, towards the apex slightly silvery; below the subcostal and also the median nervure is a fuscous vitta, arising from the base, and at the end of the cell a fuscous spot; about half-way between the cell and the outer margin is a transverse fuscous band, nearly straight internally, very angular ex-

ternally, marked near the costæ with a black spot, on each side of which is a yellow dot, the outer one followed by two larger ones of the same colour placed on each side of the discoidal nervule; the margin with a series of seven triangular spots bordered with black, the four nearest the apex yellow, the others cinereous. Nervures, nervules and cilia fuscous.

Posterior wings silvery white, the base with a black patch, bounded anteriorly by the costal nervules, marked with eight yellow spots, and a single crimson one on the inner margin; cell with a slender black line along the median fold, throwing off a slender branch internally near the end of the cell, this line bounding externally a bright yellow vitta. Beyond the cell is a series of yellow cuneiform spots bounded internally with black, and there is a similar series on the outer margin; the space between the first median nervule and the submedian nervure is marked with a yellow vitta. Nervures, nervules and cilia black.

Head, thorax, abdomen and legs fuscous, more or less clothed with gray hairs; the abdomen paler below. Antennæ black.

This species and the last-described are very nearly allied, and may possibly prove to be varieties of one species. The whole of this group, of which *Euterpe Semiramis* may be regarded as the type, are very difficult to determine.

Genus LEPTALIS.

L. Eumara. Lept. alis anticis supra nigris fascia media, alteraque pone medium macularibus flavis; vitta baseos pallide testacea, posticis, supra, testaceis, margine, nervulis, lineisque inter nervulos nigris. Exp. alar. 2 unc. 4 lin. vel 60 millim.

Hab. America Meridionali.

Above: anterior wings fuscous black, with a testaceous vitta at the base upon the median nervure, extending along a space about equal in length to one-half the inner margin of the wing; a macular band composed of a large spot, slightly divided by the nervules, and of a much smaller one, extends from the middle of the costa nearly to the anal angle, close to which on the inner margin is a small yellow streak: near the apex is a transverse band of four yellow spots. Posterior wings reddish, with the outer margin broadly fuscous; the median nervure and nervules, a series of dashes between the nervules, also fuscous.

Below: nearly as above, but all the colours paler; the dark border to the posterior wings less distinct.

Head black, antennæ black; palpi yellow internally, black externally.

Thorax black above.

Abdomen fuscous above, gray below.

In the collection of Conrad Loddiges, Esq.

L. Theucharila. Lept. alis anticis supra nigris, vitta seu plaga triangulari basali fulva, maculisque tribus pone medium flavis, posticis fulvis, *maris*, fimbria fasciaque submarginali nigris, costa late selenitica; *feminae* margine anteriori externoque, vitta subcostali fasciaque submarginali nigris, puncto apicis fulvo, luteove. Exp. alar. 2 unc. vel 50 millim.

Hab. Venezuela.

Above: anterior wings black, the base with a fulvous vitta, occupying in the male nearly the whole of the cell, and in the female extending beyond it across the median nervure; on the costa is a yellow spot divided by the first and sometimes also by the second subcostal nervule, below which, upon the third median nervule, is a small oval yellow spot in the male, a larger one in the female, and towards the apex is a short yellow fascia divided by the last subcostal and the first discoidal nervules. Posterior wings of the male fulvous, with the outer margin black, a band of the same colour extending from the hinder part of the inner margin to the outer margin near the termination of the third submedian nervule; the costa widely of a satiny or selenitic white. Posterior wings of the female fulvous, with the fuscous border and the submarginal band rather broader than in the male; the costa black, divided by a fulvous vitta terminating in a spot of the same colour.

Below: the anterior wings have the costa brown from the base to the middle; the apex as above, but paler, and with a series of eight white dots near the margin; the remainder of the wing whitish, with a selenitic lustre along the middle of the wing, a chalky appearance towards the inner margin. Posterior wings of the male pale dull luteous, yellower towards the costa; the outer margin, the costa beyond the middle, two bands, one along the middle of the wing, the other near the outer margin, fuscous; a space above the first band nut-brown; near the apex are two white dots, and in the fuscous margin three or four faint dashes of white between the nervules. Posterior wings of the female more fulvous than those of the male, the black margin and band broader, the marginal white spots more distinct.

Head black; antennæ black, dotted with white; orbits and a patch on the vertex white.

Thorax and abdomen fuscous ash below. Legs black, lined with white.

In the collection of the British Museum, W. C. Hewitson, Esq., &c.

In size and form this beautiful species resembles *Leptalis Methymna*, but in colouring approaches nearer to *Lept. Amphione* and its allies.

L. Theuigenis. Lept. alis omnibus supra læte flavis, anticis macula media costali apiceque nigris, posticis margine externo nigro. ♂.
Exp. alar. 2 unc. vel 50 millim.

Hab. Bolivia.

Anterior wings elongate, rounded at the apex, the first subcostal nervule anastomosing with the costal nervure. Above: bright yellow, the apex from the termination of the first subcostal nervule to that of the third median nervule black; this black patch united to a spot of the same colour occupying the outer margin as far as the termination of the first median nervule. Posterior wings yellow, the outer margin fuscous from the apex to the first median nervule; the fuscous margin broadest at the apex.

Below: anterior wings yellow on the costa and at the apex, the dark markings of the upper surface slightly indicated; the rest of the wing whitish, the inner margin with a large spot of a chalky appearance. Posterior wings yellow, with two pale brown bands, the first extending along the subcostal nervule to its termination, the second below the cell extending from the submedian nervure to the second subcostal nervule, which it just crosses.

Head, thorax and abdomen brown above, yellow below. Antennæ black. Legs, except the coxæ, black, with a pale yellow line on each side.

In the collection of the British Museum.

This species is closely allied to *Lept. Melite*, from which however it may be known by the want of the black vitta on the inner margin and of the yellow spot in the black of the apex, independent of some less striking differences.

XV.—*Reports on the Progress of Physiological Botany.* No. 2.
By ARTHUR HENFREY, F.L.S. &c.

Anomalous Forms of Dicotyledonous Stems.

PROF. TREVIRANUS* has published an exceedingly interesting essay on the anomalous forms under which the wood presents itself in certain dicotyledons, in which he endeavours to arrive at some general conclusions as to the regulating causes. The essay is a kind of critical examination of all the observations hitherto published on the subject, interspersed with the results of new investigations undertaken by the author with a view to explain or confirm the views of other writers.

Our attention is first directed to those remarkable bodies called

* Botanische Zeitung, May 28, 1847.